3. We have been asked to review the unredacted versions of the CPUC's Petition and Appendices, recently made available subject to a Protective Order, and provide an opinion regarding whether the unredacted data relied upon by the CPUC support its conclusion that the provision of cellular service in the state of California is noncompetitive. After reviewing the unredacted data relating to prices for cellular service as well as the number of customers, market shares, profitability, and capacity utilization of California cellular carriers, we have concluded that the data do not support the CPUC's claim that the provision of cellular service in California is noncompetitive. Indeed, we have found nothing in the unredacted data that would cause us to change any conclusions contained in our earlier report.

4. Our conclusions are unaltered for two reasons. First, the most serious flaws in the analysis in the CPUC's Petition do not depend on the particular values of the variables that the Commission examined to assess market competitiveness. Rather, the flaws stem from the lack of a sound analytical framework for evaluating or interpreting these data. Second, to the extent that the unredacted data are relevant to a competitive analysis of cellular service in California, they confirm the conclusions in our report.

5. Examples of the flaws in the Commissions' approach are found in the analysis underlying its claim that the returns earned by cellular carriers in California's largest

metropolitan areas have been consistently high[5] and are the result of undue market power.[6] In our report, we pointed out that the CPUC's discussion of the carriers' accounting rates of return contains two analytical errors. First, it incorrectly assumes that market power can be inferred from accounting rates of return. Second, it ignores the opportunity cost of employing scarce electromagnetic spectrum in the production of cellular service and understates the carriers' investments in intangible assets, thereby overstating carrier profitability. These criticisms of the CPUC's analysis of the carriers' profitability are independent of the particular rates of return the CPUC considered, and hence are unaffected by the release of the after-tax rates of return in the unredacted version of Appendix F to the CPUC's Petition.

6. In addition, a review of the unredacted rates of return reveals significant problems in the Commission's empirical analysis. The returns to carriers in markets of medium size reported in Appendix F are substantially below the returns reported for carriers in major markets and are sometimes negative. Furthermore, the returns to carriers in rural markets are more often than not negative. Since there is little variation in market structure across cellular service areas, because each contains two facilities-based carriers, it is reasonable to infer that some factor or factors other than the number of carriers and their market shares are responsible for the wide range of observed rates of return. A strong candidate for an explanatory variable is the opportunity cost of spectrum use, since a given amount of spectrum would have a greater value in densely populated major metropolitan areas

[5] Petition, p. 47.

[6] Petition, p. 49.

than in smaller metropolitan areas or rural areas. Because accounting rates of return do not take account of the opportunity cost of spectrum, one would expect to find higher accounting rates of return in larger markets than in medium or small markets, whether or not cellular carriers possess market power.[7] The CPUC, however, does not even seriously address how one can disentangle the separate effects of market power and spectrum scarcity on reported profits. It asserts that "...high returns are the result of undue market power,"[8] merely noting that low returns in rural areas may be due to small customer bases and slow growth relative to large fixed costs.[9]

7. The data on prices in the unredacted versions of the CPUC's Petition and Appendices demonstrate the extent of the decline in the prices for service paid by California cellular subscribers that has occurred in the last several years. These data reveal that the rates for basic plans in all service areas within California declined by an average of [redacted] percent in real terms (that is, adjusted for inflation) from 1989 to 1993.[10] In addition, the data in Appendix J confirm the substantial migration of cellular subscribers from basic to discount plans during the same period that we discussed in our earlier report.[11]

8. Examination of the data in Appendix J reveals the considerable extent to which California subscribers have migrated from basic to discount plans for cellular service,

[7] CRA Report, pp. 23-24.

[8] Petition, p. 49.

[9] Petition, p. 47.

[10] Petition, p. 34.

[11] CRA Report, pp. 13-15.

especially in the three largest service areas. In the Los Angeles area, only [redacted] percent of retail customers of the Los Angeles Cellular Telephone Company in 1993 subscribed to the basic plan (down from [redacted] percent in 1991), and only [redacted] percent of Los Angeles SMSA LP's retail customers subscribed to the carrier's basic plan (down from [redacted] percent in 1990).[12] In the San Francisco Bay Area, the percentages of the two carriers' retail customers subscribing to a basic plan in 1993 were [redacted] percent and [redacted] percent.[13] The corresponding figures for San Diego were [redacted] percent and [redacted] percent.[14] For the 16 carriers for which data are reported in Appendix J, only [redacted] percent of retail customers subscribed to basic plans in 1993.

9. The CPUC complains that cellular rates have not fallen as much as it thinks they should have declined, but its focus on rates in basic plans and its downplaying of the dramatic migration by subscribers to discount plans ignore the plain evidence that cellular subscribers in California have benefited from appreciable declines in rates as the carriers have greatly expanded the number and variety of rate plans they offer. The large percentage of subscribers who switched to discount plans have demonstrated by their behavior that they were better off in 1993 than they were in 1989. Moreover, the data compiled by the CPUC indicate that even subscribers who stayed on basic plans during the period 1989 to 1993 experienced a [redacted] percent decline in real rates. These results confirm the conclusions in our earlier report.

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[12] Appendix J, pp. J-1 and J-4.

[13] Appendix J, pp. J-7 and J-11.

[14] Appendix J, pp. J-16 and J-20.

10. Interpreting the data on capacity utilization in Appendix M to the CPUC's Petition is especially difficult. The difficulty arises in part because the CPUC has sought to measure capacity utilization not for the cellular system as a whole, but rather at the level of individual cell sectors or cell faces. The CPUC apparently classifies each cell sector or cell face into one of three categories of utilization - high, medium, and low - and aggregates the results across all cell sectors in the system. Thus, for the Los Angeles SMSA system, the CPUC reports that in 1993,[redacted] percent of the cell sectors had a high rate of capacity utilization (90 percent or greater), [redacted] percent had a medium rate of capacity utilization (between 65 and 90 percent), and [redacted] percent had a low rate of capacity utilization (65 percent or less).[15] However, given that (1) cell sectors come only in discrete sizes, so that capacity is lumpy, (2) a cellular carrier has an obligation to provide coverage throughout its entire service area, and (3) the usage of cellular service is not uniform throughout the service area, it is neither surprising nor significant that some cell sectors are utilized at higher rates than others. Without some benchmark of efficient or desirable capacity utilization for the system as a whole, however, it is not possible to determine whether there is "excess capacity" in any meaningful sense. In addition, as we point out in our earlier report,[16] even if the data reveal "excess capacity" for the cellular system, one cannot infer, without engaging in more analysis than the CPUC has done, that cellular carriers in California are restricting output, charging prices above the competitive level, and earning excessive returns.

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[15] Appendix M, p. M-1.

[16] CRA Report, pp. 27-31.

We declare on penalty of perjury that the foregoing is true and correct to the best of our knowledge and belief. Executed on the 23rd of February 1995 by Robert J. Larner and on the 24th of February 1995 by Stanley M. Besen and E. Jane Murdoch.

Robert J. Larner

Robert J. Larner

Subscribed and sworn to before me
this 23rd day of February, 1995.

Michelle A. Zelinski

Notary Public
My Commission Expires Sept. 22, 2000

MICHELLE A. ZELINSKI
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires September 22 2000

Stanley M. Besen

Stanley M. Besen

E. Jane Murdoch

E. Jane Murdoch

Subscribed and sworn to before me
this 24th day of February, 1995.

Elizabeth F. McLean

Notary Public
My Commission Expires 4/30/98

Elizabeth F. McLean
Notary Public, District of Columbia
My Commission Expires April 30, 1998

DECLARATION

PR DOCKET [94-105]

I, E. Jane Murdoch, hereby declare under penalty of perjury that I have read the Protective Order that has been entered by the Wireless Telecommunications Bureau in Federal Communications Commission proceeding PR Docket No. 94-105, and that I agree that I will be bound by its terms pertaining to the confidentiality of Confidential Information and that I am not involved in devising marketing plans for any of the Parties.

E. Jane Murdoch

J:\[illegible]\doc